



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2021-0715; Project Identifier AD-2021-00259-A]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Various Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for various airplanes modified with certain configurations of Garmin G3X Touch Electronic Flight Instrument System installed per Supplemental Type Certificate (STC) No. SA01899WI or Garmin GI 275 Multi-Function Display System (MFDS) installed per STC No. SA02658SE. This proposed AD was prompted by a report of a fuel quantity disparity between the amount of fuel indicated and the actual amount of fuel. This proposed AD would require modifying the resistive fuel probe interface. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Garmin International, Garmin Aviation Support, 1200 E. 151st Street, Olathe, KS 66062; phone: (866) 739-5687; email: [avionics@garmin.com](mailto:avionics@garmin.com); website: <https://fly.garmin.com/fly-garmin/support/>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0715; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** Kevin Marks, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, KS 67209; phone: (316) 946-4153; fax: (316) 946-4107; email: [kevin.marks@faa.gov](mailto:kevin.marks@faa.gov) or Wichita-COS@faa.gov.

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-0715; Project Identifier AD-2021-00259-A” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

## **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Kevin Marks, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, KS 67209. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Background**

The FAA was notified of a Piper production line issue with the installation of a Garmin G3X Touch Electronic Flight Instrument System installed under STC No. SA01899WI. After calibration and fueling the airplane to a known level, the flight crew noted that the fuel quantity indicator displayed a higher level of fuel.

The Garmin G3X Touch Electronic Flight Instrument System, when interfaced with the Garmin GEA 24 (Engine Airframe Adapter) for display of the fuel quantity, uses a 1K ohm resistor inline between the GEA 24 and the airplane fuel quantity resistance style sending unit (float). This resistor provides lightning protection to the fuel tank as required by 14 CFR 23.954.

Use of the 1K resistor causes a GEA error with changing resistor temperature. The farther the actual (ambient) temperature of the resistor is from the temperature of the fuel quantity calibration, the larger the error. The lower the operating resistance of the fuel sending unit, the larger the error. The largest errors occur in installations with fuel sending units having an operational range less than 100 ohms. The Garmin GI 275 MFDS installed under STC No. SA02658SE, when interfaced with the Garmin GEA 24 for display of the fuel quantity, is also subject to this unsafe condition.

The displayed fuel quantity can have an error as much as four gallons/fuel tank with the display indicating four gallons with an empty tank. This condition, if not addressed, could result in fuel starvation and engine shutdown with consequent loss of airplane control.

#### **FAA's Determination**

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

#### **Related Service Information under 1 CFR Part 51**

The FAA reviewed Garmin Mandatory STC Service Bulletin No. 2134, Revision A, and Garmin Mandatory STC Service Bulletin No. 2135, Revision A, both dated April 23, 2021. This service information specifies procedures for modifying the GEA 24 resistive fuel probe interface. These documents are distinct since they apply to different STCs. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

#### **Other Related Service Information**

The FAA also reviewed Master Drawing List (MDL) Document No. 005-01320-00, Revision 10, for STC No. SA01899WI, and MDL Drawing No. 005-01208-41, Revision 10, for STC No. SA02658SE, both dated April 23, 2021. This service information contains the type design data for installation of the STC. Revision 10 introduces a new fuel quantity interface and configuration to eliminate the unsafe condition described previously.

#### **Proposed AD Requirements in this NPRM**

This proposed AD would require modifying the resistive fuel probe interface. The proposed AD would apply to airplanes on the approved model list for STC No. SA01899WI, installed in accordance with MDL Document No. 005-01320-00, Revision 9 or earlier, and STC No. SA02658SE, installed in accordance with MDL Drawing No. 005-01208-41, Revision 9 or earlier, if the installation is interfaced with a Garmin Engine Adapter GEA 24 connected to resistive fuel probes.

## **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 920 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

### **Estimated costs**

<b>Action</b>	<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Modify fuel probe interface and recalibrate the fuel system	8 work-hours x \$85 per hour = \$680	\$10	\$690	\$634,800

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national

government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**Various Airplanes:** Docket No. FAA-2021-0715; Project Identifier AD-2021-00259-A.

#### **(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to all serial numbers of the airplane models listed in table 1 to paragraph (c), certificated in any category, that are either:

(1) Modified with a Garmin G3X Touch Electronic Flight Instrument System under Supplemental Type Certificate (STC) No. SA01899WI, installed in accordance

with Master Drawing List (MDL) Document No. 005-01320-00, Revision 9 or earlier, interfaced with a Garmin Engine Adapter GEA 24 connected to resistive fuel probes; or

(2) Modified with a Garmin GI 275 Multi-Function Display System under STC No. SA02658SE, installed in accordance with MDL Revision 9 or earlier, interfaced with a Garmin Engine Adapter GEA 24 connected to resistive fuel probes.

Note 1 to paragraph (c): Garmin Mandatory STC Service Bulletin No. 2134, Revision A, and Garmin Mandatory STC Service Bulletin No. 2135, Revision A, both dated April 23, 2021, contain information for how to determine if your airplane has a resistive probe interface.

Table 1 to Paragraph (c)—*Affected Airplanes*

Type Certificate Holder	Airplane Model
Aermacchi S.p.A.	F.260, F.260B, F.260C, F.260D, F.260E, F.260F, S.205-18/F, S.205-18/R, S.205-20/F, S.205-20/R, S.205-22/R, S.208, and S.208A
Aeronautica Macchi S.p.A./Aerfer-Industrie Aerospaziali Meridionali S.p.A.	AM-3
Aerostar Aircraft Corporation	PA-60-600 (Aerostar 600), PA-60-601 (Aerostar 601), PA-60-601P (Aerostar 601P), and PA-60-602P (Aerostar 602P)
Air Tractor, Inc.	AT-401
Alexandria Aircraft, LLC	14-19, 14-19-2, 14-19-3, 14-19-3A, 17-30, 17-30A, 17-31, 17-31A, 17-31ATC, and 17-31TC
Alpha Aviation Concept Limited	R2160
American Champion Aircraft Corp.	402, 7EC, 7ECA, 7FC, 7GC, 7GCA, 7GCAA, 7GCB, 7GCBA, 7GCBC, 7KCAB, 8GCBC, and 8KCAB
Aviat Aircraft Inc.	A-1, A-1A, A-1B, A-1C-180, A-1C-200, S-1S, S-1T, S-2, S-2A, S-2B, S-2C, and S-2S
Bellanca Aircraft Corporation	14-13, 14-13-2, 14-13-3, and 14-13-3W
B-N Group Ltd.	BN-2 and BN-2A

The Boeing Company	AT-6 (Navy SNJ-2), AT-6A (Navy SNJ-3), AT-6B, AT-6C (Navy SNJ-4), AT-6D (Navy SNJ-5), AT-6F (Navy SNJ-6), BC-1A, Navy SNJ-7, and T-6G
CEAPR (type certificate previously held by APEX Aircraft)	R3000/160
Cessna Aircraft Company	T-50 (Army AT-17 and UC-78 series, Navy JRC-1)
Cirrus Design Corporation	SR20, SR22, and SR22T
Commander Aircraft Corporation	112, 112B, 112TC, 112TCA, 114, 114A, 114B, and 114TC
Costruzioni Aeronautiche Tecnam S.P.A.	P2006T
Cougar Aircraft Corporation	GA-7
Cub Crafters, Inc.	CC19-180
Daher Aircraft Design, LLC (type certificate previously held by Quest Aircraft Design, LLC)	Kodiak 100
De Havilland Support Limited	B.121 Series 1, B.121 Series 2, and B.121 Series 3
Diamond Aircraft Industries Inc.	DA20-A1, DA20-C1, DA 40, DA 40 F, and DA 40 NG
Discovery Aviation, Inc.	XL-2
Dynac Aerospace Corporation	Aero Commander Model 100, Aero Commander Model 100-180, Aero Commander Model 100A, Volaire Model 10, and Volaire Model 10A
EADS-PZL Warszawa-Okecie S.A.	PZL-104 Wilga 80, PZL-104M Wilga 2000, PZL-104MA Wilga 2000, PZL-KOLIBER 150A, and PZL-KOLIBER 160A
Extra Flugzeugproduktions- und Vertriebs-GmbH	EA-300, EA-300/200, EA-300/L, EA 300/LC, and EA-300/S
FLS Aerospace (Lovaux) Ltd.	OA7 Optica Series 300
Found Brothers Aviation Limited	FBA Centennial 100
Frakes Aviation	G-44 (Army OA-14, Navy J4F-2) (including SCAN Type 30) and G-44A
FS 2003 Corporation	PA-12 and PA-12S
Fuji Heavy Industries, Ltd.	FA-200-160, FA-200-180, and FA-200-180AO
GA8 Airvan (Pty) Ltd.	GA8 and GA8-TC 320



Gomolzig Flugzeug- und Maschinenbau GmbH	AS 202/15 BRAVO, AS 202/18A BRAVO, and AS 202/18A4 BRAVO
GROB Aircraft SE	G 115, G 115A, G 115B, G 115C, G 115C2, G 115D, and G 115D2
Helio Aircraft Corporation	15A and 20
Helio Alaska, Inc.	H-250, H-295 (USAF U10D), H-391 (USAF YL-24), H-391B, H-395 (USAF L-28A or U-10B), H-395A, H-700, H-800, and HT-295
Howard Aircraft Foundation	DGA-15J (Army UC-70B), DGA-15P (Army UC-70, Navy GH-1, GH-2, GH-3, NH-1), and DGA-15W
Interceptor Aircraft Inc.	200, 200A, 200B, 200C, 200D, and 400
The King's Engineering Fellowship	44 Angel, 4500-300, and 4500-300 Series II
Legend Aviation & Marine, LLC	UC-1
Luscombe Aircraft Corporation	8, 8A, 8B, 8C, 8D, 8E, 8F, and T-8F
Maule Aerospace Technology, Inc.	Bee Dee M-4, M-4, M-4-180C, M-4-180S, M-4-180T, M-4-180V, M-4-210, M-4-210C, M-4-210S, M-4-210T, M-4-220, M-4-220C, M-4-220S, M-4-220T, M-4C, M-4S, M-4T, M-5-180C, M-5-200, M-5-210C, M-5-210TC, M-5-220C, M-5-235C, M-6-180, M-6-235, M-7-235, M-7-235A, M-7-235B, M-7-235C, M-7-260, M-7-260C, M-7-420A, M-7-420AC, M-8-235, M-9-235, MT-7-235, MT-7-260, MT-7-420, MX-7-160, MX-7-160C, MX-7-180, MX-7-180A, MX-7-180AC, MX-7-180B, MX-7-180C, MX-7-235, MX-7-420, MXT-7-160, MXT-7-180, and MXT-7-180A
Micco Aircraft Company, Inc.	MAC-125C, MAC-145, MAC-145A, and MAC-145B
Mooney Aircraft Corporation	M22
Mooney International Corporation	M20, M20A, M20B, M20C, M20D, M20E, M20F, M20G, M20J, M20K, M20L, M20M, M20R, M20S, and M20TN
Nardi S.A.	FN-333
Pacific Aerospace Ltd.	FBA-2C, FBA-2C1, FBA-2C2, and FBA-2C3
Piaggio & C.	P.136-L and P.136-L1
Pilatus Aircraft Limited	PC-6, PC-6/350, PC-6/350-H1, PC-6/350-H2, PC-6-H1, and PC-6-H2

Piper Aircraft, Inc.	PA-16, PA-16S, PA-18, PA-18-105 (Special), PA-18-125 (Army L-21A), PA-18-135, PA-18-150, PA-18A, PA-18A-135, PA-18A-150, PA-18AS-125, PA-18AS-135, PA-18AS-150, PA-18S, PA-18S-105 (Special), PA-18S-125, PA-18S-135, PA-18S-150, PA-19 (Army L-18C), PA-19S, PA-20, PA-20-115, PA-20-135, PA-20S, PA-20S-115, PA-20S-135, PA-22, PA-22-108, PA-22-135, PA-22-150, PA-22-160, PA-22S-135, PA-22S-150, PA-22S-160, PA-23, PA-23-160, PA-23-235, PA-23-250, PA-23-250 (Navy UO-1), PA-24, PA-24-250, PA-24-260, PA-24-400, PA-28-140, PA-28-150, PA-28-151, PA-28-160, PA-28-161, PA-28-180, PA-28-181, PA-28-201T, PA-28-235, PA-28-236, PA-28R-180, PA-28R-200, PA-28R-201, PA-28R-201T, PA-28RT-201, PA-28RT-201T, PA-28S-160, PA-28S-180, PA-30, PA-31-300, PA-32-260, PA-32-300, PA-32-301, PA-32-301FT, PA-32-301T, PA-32-301XTC, PA-32R-300, PA-32R-301 (HP), PA-32R-301 (SP), PA-32R-301T, PA-32RT-300, PA-32RT-300T, PA-32S-300, PA-34-200, PA-34-200T, PA-34-220T, PA-38-112, PA-39, PA-40, PA-44-180, PA-44-180T, PA-46-310P, PA-46-350P, PA-46R-350T, and PA-E23-250
Polskie Zakłady Lotnicze Spolka zo.o	PZL M26 01
Revo, Incorporated	Colonial Model C-1, Colonial Model C-2, Lake Model 250, Lake Model LA-4, and Lake Model LA-4-200
Robert E. Rust, Jr.	DHC-1 Chipmunk Mk 21, DHC-1 Chipmunk Mk 22, and DHC-1 Chipmunk Mk 22A
RUAG Aerospace Services GmbH	Do 27 Q-6, Do 28 A-1, and Do 28 B-1
Sierra Hotel Aero, Inc.	Navion (Army L-17A), Navion A (Army L-17B and L-17C), Navion B, Navion D, Navion E, Navion F, Navion G, and Navion H
Sky Enterprises, Inc.	RC-3
Slingsby Aviation Ltd.	T67M260
SOCATA (type certificate currently held by Daher)	MS 880B, MS 885, MS 892A-150, MS 892E-150, MS 893A, MS 893E, MS 894A, MS 894E, Rallye 100S, Rallye 150 ST,

	Rallye 150 T, Rallye 235C, Rallye 235 E, TB9, TB 10, TB 20, TB 21, and TB 200
Spartan Aircraft Company	7W (Army UC-71)
Swift Museum Foundation, Inc.	GC-1A and GC-1B
Symphony Aircraft Industries Inc.	OMF-100-160 and SA 160
Textron Aviation Inc.	19A, 23, 35, 36, 50, 58, 76, 77, 95, 120, 140, 140A, 150, 150A, 150B, 150C, 150D, 150E, 150F, 150G, 150H, 150J, 150K, 150L, 150M, 152, 170, 170A, 170B, 172, 172A, 172B, 172C, 172D, 172E, 172F (USAF T-41A), 172G, 172H (USAF T-41A), 172I, 172K, 172L, 172M, 172N, 172P, 172Q, 172R, 172RG, 172S, 175, 175A, 175B, 175C, 177, 177A, 177B, 177RG, 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K, 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 182R, 182S, 182T, 185, 185A, 185B, 185C, 185D, 185E, 190, 195, 195A, 195B, 206, 206H, 207, 207A, 210, 210-5 (205), 210-5A (205A), 210A, 210B, 210C, 210D, 210E, 210F, 210G, 210H, 210J, 210K, 210L, 210M, 210N, 210R, 310, 310A, 310B, 310C, 310D, 310E, 310F, 310G, 310H, 310I, 310J, 310J-1, 310K, 310L, 310N, 310P, 310Q, 310R, 320, 320-1, 320A, 320B, 320C, 320D, 320E, 320F, 335, 336, 337, 337A, 337B, 337C, 337D, 337E, 337F, 337G, 337H, 340, 340A, 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, 35R, 45 (Military YT-34), 56TC, 58A, 58PA, 58TCA, 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A, A150K, A150L, A150M, A152, A185E, A185F, A23, A23-19, A23-24, A23A, A24, A24R, A35, A36, A36TC, A45 (Military T-34A, B-45), A56TC, B19, B23, B24R, B35, B36TC, B50, B95, B95A, C23, C24R, C35, C50, D17S, D35, D45 (Military T-34B), D50E-5990, D55, D55A, D95A, E310H, E310J, E33, E33A, E33C, E35, E55, E55A, E95, F150F, F150G, F150H, F150J, F150K, F150L, F150M, F152, F172D, F172E, F172F, F172G, F172H, F172K, F172L, F172M, F172N, F172P, F177RG, F182P, F182Q, F33, F33A, F33C, F337E, F337F, F337G, F337H, F35, FA150K, FA150L, FA150M, FA152, FP172D, FR172E, FR172F, FR172G, FR172H,

	FR172J, FR172K, FR182, FRA150L, FRA150M, FT337E, FT337F, FT337GP, FT337HP, G17S, G33, G35, G36, G58, H35, J35, K35, LC40-550FG, LC41-550FG, LC42-550FG, M19A, M337B, M35, N35, P172D, P206, P206A, P206B, P206C, P206D, P206E, P210N, P210R, P337H, P35, R172E, R172F, R172G, R172H, R172J, R172K, R182, S35, SD17S, T182, T182T, T206H, T207, T207A, T210F, T210G, T210H, T210J, T210K, T210L, T210M, T210N, T210R, T240, T303, T310P, T310Q, T310R, T337B, T337C, T337D, T337E, T337F, T337G, T337H, T337H-SP, TP206A, TP206B, TP206C, TP206D, TP206E, TR182, TU206A, TU206B, TU206C, TU206D, TU206E, TU206F, TU206G, U206, U206A, U206B, U206C, U206D, U206E, U206F, U206G, V35, V35A, and V35B
Thrush Aircraft, LLC	600 S-2D, S2R, S2R-R1340, S2R-R1820, S2R-R3S, and S2R-T34
Topcub Aircraft, Inc.	CC18-180 and CC18-180A
True Flight Holdings LLC	AA-1, AA-1A, AA-1B, AA-1C, AA-5, AA-5A, AA-5B, and AG-5B
Twin Commander Aircraft LLC	500, 500-A, 520, 560, and 560-A
Univair Aircraft Corporation	108, 108-1, 108-2, 108-3, 108-5, 415-C, 415-CD, 415-D, A-2, A2-A, E, F-1, F-1A, G, and M10
Viking Air Limited	DHC-2 Mk.I, DHC-2 Mk.II, DHC-2 Mk.III, and TR-1
Vulcanair S.p.A.	P.68, P.68 "Observer," P.68B, P.68C, P.68C-TC, P.68R, P.68 Observer 2, P.68TC Observer, and Vulcanair V1.0
Waco Aircraft Company	YMF
WACO Classic Aircraft Corporation	2T-1A, 2T-1A-1, and 2T-1A-2
WSK PZL Mielec and OBR SK Mielec	PZL M20 03
W.Z.D. Enterprises Inc	11A and 11E
Zenair Ltd.	CH2000
Zlin Aircraft a.s.	Z-143L, Z-242L, and Zlin 526L

**(d) Subject**

Joint Aircraft System Component (JASC) Code 2841, Fuel Quantity Indicator.

**(e) Unsafe Condition**

This AD was prompted by reports of fuel quantity disparities between the amount of fuel indicated and the actual amount of fuel. The FAA is issuing this AD to ensure that the amount of fuel indicated is the amount of fuel available. The unsafe condition, if not addressed, could result in fuel starvation and engine shutdown with consequent loss of airplane control.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Action**

Within 100 hours time-in-service after the effective date of this AD or within 12 months after the effective date of this AD, whichever occurs first, modify the fuel probe interface by following the Modification Instructions in Garmin Mandatory STC Service Bulletin No. 2134, Revision A, or Garmin Mandatory STC Service Bulletin No. 2135, Revision A, both dated April 23, 2021, whichever is applicable.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Wichita ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in Related Information.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Related Information**

(1) For more information about this AD, contact Kevin Marks, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, KS 67209; phone: (316) 946-4153; fax: (316) 946-4107; email: kevin.marks@faa.gov or Wichita-COS@faa.gov.

(2) For service information identified in this AD, contact Garmin International, Garmin Aviation Support, 1200 E. 151st Street, Olathe, KS 66062; phone: (866) 739-5687; email: avionics@garmin.com; website: <https://fly.garmin.com/fly-garmin/support/>. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

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